

AMENDMENT TO THE ABSTRACT

Please replace the Abstract with the following:

An antenna array comprised of a fractile array having a plurality of antenna elements uniformly distributed along a Peano-Gosper curve. An antenna array comprised of an array having an irregular boundary contour comprising a plane tiled by a plurality of fractiles covering the plane without any gaps or overlaps. A method for generating an antenna array having improved broadband performance wherein a plane is tiled with a plurality of non-uniform shaped unit cells or an antenna array, the non-uniform shaped and tiling of the unit cells are then optimized. A method for rapidly forming a radiation pattern of a fractile array employing a pattern multiplication for fractile arrays wherein a product formulation is derived for the radiation pattern of a fractile array for a desired stage of growth. The pattern multiplication is recursively applied to construct higher order fractile array forming an antenna array.